REMARKS

In the Action, claims 1-37 are rejected. In response, claims 1, 2 and 3 are amended to clarify the features of the invention. In view of these amendments and the following comments, reconsideration and allowance are requested.

Independent claims 1, 2 and 3 are amended to clarify the steps of transferring the aligned carbon nanotubes from one substrate to another. In particular, claim 1 is amended to clarify that the carbon nanotube film is formed on the surface of a first basic substrate and that a conductive binder is provided on a second substrate for forming an electrode. The carbon nanotubes on the first basic substrate are bonded to the conductive binder on the second substrate to transfer the aligned carbon nanotubes from the first basic substrate to the conductive binder on the second substrate. Similar amendments are made to independent claims 2 and 3.

Claims 1-37 are rejected under 35 U.S.C. § 103(a) as being obvious over U.S. Patent No. 6,097,138 to Nakamoto in view of U.S. Patent No. 6,436,221 to Chang et al. Nakamoto is cited for disclosing a field emission cold cathode device by forming nanotubes on a substrate and then applying a conductive material over the nanotubes and the substrate. Chang et al. is cited for disclosing a taping method to remove a portion of the carbon nanotubes from the substrate.

Nakamoto and Chang et al. either standing alone or in combination do not suggest the step of transferring aligned carbon nanotubes from a first basic substrate to a patterned conductive binder on a second substrate, and thereafter separating the first basic substrate so that the carbon nanotubes are transferred from the first basic substrate to the second substrate on the patterned conductive binder. Nakamoto and Chang et al. do not disclose these steps so that the claims are not obvious to one of ordinary skill in the art.

The passages referred to in the Action of Nakamoto disclose two separate and distinct processes for producing carbon nanotube layers directly on the electrically conductive layer. There is no suggestion of forming aligned carbon nanotubes on a first basic substrate and then transferring a portion of the carbon nanotubes onto a patterned conductive substrate as in the claimed invention.

Chang et al. is relevant only to the extent that a taping method is disclosed for removing loosely bound carbon nanotubes in a random manner from an electrically connective substrate. There is no suggestion in Chang et al. of using a taping method to form the field emission electrode. Furthermore, Chang et al. clearly does not disclose a taping method to transfer carbon nanotubes in a controlled pattern to form an electrode as in the present invention. Chang et al. does not transfer aligned carbon nanotubes from one substrate to an electrically conductive substrate. Therefore, Chang et al. provides no suggestion of modifying Nakamura in a manner to attain the claimed invention. At best, Chang et al. suggests applying a taping method to remove loose or random carbon nanotubes from a substrate which are then discarded. Chang et al. provides no teaching of using the taping method to transfer carbon nanotubes in a selected pattern to form an electrode. One skilled in the art would not have been motivated by Chang et al. to modify the process of Nakamoto to transfer an aligned carbon nanotube film on a first basic substrate to a patterned conductive binder on a second substrate for forming an electrode.

As noted above, the claims are directed to a process where an aligned carbon nanotube film is first formed on a basic substrate. A patterned conductive binder is then formed on a second substrate for forming the electrode. The aligned carbon nanotube film on the first basic substrate is then contacted with the conductive binder and stripped to transfer the carbon nanotubes from the first basic substrate onto the pattern of the conductive binder on the second substrate. The Action has failed to identify where these process steps are

disclosed or suggested in either Nakamoto or Chang et al. The only reference in the Action to transferring carbon nanotubes is by Chang et al. which removes loose and random carbon nanotubes from the final electrode. The removed carbon nanotubes by the taping method of Chang et al. are then discarded and do not form the electrode.

The Action has not shown that Nakamoto produces aligned carbon nanotubes as indicated in the Action. Nakamoto discloses forming carbon nanotube layers by forming a dispersion and then applying the dispersion to the substrate. As expressly disclosed in column 5, lines 2-7 of Nakamoto, "the carbon nanotube 16 normally exists like fallen trees overlapping each other on the support substrate 12". Nakamoto further states that "for the sake of simplicity, the carbon nanotubes rise nearly vertically in the following drawings". Thus, Nakamoto specifically states that only the drawings depict vertical nanotubes but in fact the carbon nanotubes are random and not aligned. There is no suggestion in Nakamoto of aligned carbon nanotube layers on a substrate, and thereafter contacting the nanotube layer with a patterned conductive adhesive layer to transfer the aligned carbon nanotubes from a first substrate to the conductive layer.

Chang et al. is directed to a method of forming a nanotube layer by screen printing using a paste that contains nanotubes. Chang et al. uses the adhesive tape as a method of attaching to the carbon nanotubes and pulling some of the carbon nanotubes to the desired direction and removing the poorly adhered carbon nanotubes from the substrate. Chang et al. clearly fails to transfer an aligned carbon nanotube film from one substrate to an electrically conductive substrate in a specified pattern as in the claimed invention.

In view of these amendments and the above comments, neither Chang et al. nor Nakamoto disclose or suggest the claimed process steps. Furthermore, Chang et al. provides no motivation or incentive to one of ordinary skill in the art to modify Nakamoto in a manner according to the claimed invention. Even if one were to combine the teachings of Chang et

al. with Nakamoto, the result would not be the claimed process. Accordingly, claims 1, 2 and 3 are allowable over the art of record. The dependent claims are also allowable for reciting additional features of the invention and for being dependent from an allowable base claim.

Reconsideration and allowance are requested.

Respectfully submitted,

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